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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,287	11/13/2003	Naoki Kusunoki	Q78442	5668

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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/706,287	KUSUNOKI ET AL.	
	Examiner	Art Unit	
	THOMAS D. ALUNKAL	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 June 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10 and 14-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10 and 14-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Arguments

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn. The withdrawing of finality pertains to the arguments for claims 1-2 and 4-5, which are considered persuasive. Therefore, this action will be **Non-Final**. However, the arguments pertaining to claims 3, 6-10 and 14-23 are not persuasive and will be addressed below.

Regarding claims 3, 22, and 23 on page 11 of Remarks, Applicant argues that the Examiner's reasons to combine in the rejection of claim 3 is improper. The Applicant argues that "Anderson '205 appears to be capable of providing a 'visible image' on the laser writable label side of the optical data storage disk without the addition of further references, such as Araki." The Examiner concedes this fact. However, it is noted there are a plurality of ways for providing a visible image on a writable label side of an optical storage disk. Therefore, Anderson '205 is not limited in its disclosure and is properly combinable with other references. Furthermore, it is noted that that the structure of the "electronic paper" in claim 2 and the "indication layer" of claim 3 are similar. More specifically, claim 3 appears to be claiming the specific structure of an indication layer including electronic paper. Araki discloses a recording medium with a storage layer and an indication layer disposed thereon having a structure where the indication layer has a cholesteric layer and a transparent electrode layer on a light absorbing layer (Figure 3 and Paragraph 0106). Similarly, Anderson '205 discloses a recording medium with a storage layer and an indication layer disposed thereon

where the indication layer includes a dye or phase changing material (Figure 3A). Thus, both Anderson and Araki disclose recording mediums with indication layers for indicating information related to the disc. The difference between Anderson and Araki is the type of indication layer disclosed. However, a simple substitution of indicating layers (i.e., substituting an indication layer of a cholesteric layer and a transparent electrode on a light absorbing layer in place of the writable label of Anderson) as stated in the previous Office Action is well within the scope of knowledge that is known to one of ordinary skill in the art because the substitution results in a predictable result. More specifically, providing the indication layer of a cholesteric layer and a transparent electrode on a light absorbing layer to the recording medium of Anderson '205 results in a recording medium that provides a visible image perceptible to a human via the indication layer. Therefore, due to the fact that the results of the simple substitution of elements recited in the rejection of claim 3 is predictable, the previous grounds of rejection are maintained.

Regarding claims 6, 7, 8, 10, 14-19, 21 and 24 on page 12 of Remarks, the Applicant argues that Anderson '586, relied upon to cure the deficiencies of Anderson '205, does not disclose the limitation "a detecting section detecting a difference between storage data which is stored at the storage layer of the recording medium, and new data which is to be subsequently stored" recited in claim 6. Here, the crux of the Applicant's argument Anderson '586 does not "detect a difference" between the data stored on the data side of the optical disc and new data which is to subsequently be stored. The Examiner respectfully disagrees. Figure 6, which is relied upon for disclosing the

argued limitation, discloses STEPS 608 and 610 which are further described in Column 7, lines 49-60. More specifically, when the list of files or the space used or remaining on the disc changes, the information related to the data side of the optical disc is reread and the change is determined. Therefore, Anderson '586 does "detect a difference" between previously stored data and new data. Furthermore, the Applicant argues that Anderson '586 additionally does not disclose "a generating section, which on the basis of results of detection of the detecting section, generates detection data regarding the difference between the data storage at the storage layer and the new data which is to be subsequently stored, and generates indication information which corresponds to the difference." The Examiner respectfully disagrees. In STEP 612 of Figure 6, the previous marking indicating information about the data stored in the data side of the disc in STEP 606 is updated depending on the determination of STEPS 608 and 610 (Column 7, line 49-Column 8, line 3). Thus, Anderson '586 does disclose a "generating section" that generates detection data based on the difference between previously stored data and new data. Therefore, all of the claimed limitations are met and the previous grounds of rejection are maintained.

Regarding claims 8 and 20 on page 14 of Remarks, the arguments for these claims are based on the arguments for claims 6 and 16 above, which have already been addressed. Therefore, the arguments for claims 8 and 20 are rendered moot.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 and 4-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakano (US 6,391,439).

Regarding claim 1, Nakano discloses a recording medium (see Title) comprising a storage layer for storing data (Figure 1, Element 8); and an indication layer for providing indication information relating to the stored data (Figure 1, Element 2); wherein said storage layer and said indication layer are coupled by lamination (Figure 1, Element 4 and Column 2, lines 47-50); wherein the indication information can be written at the indication layer, and at least a portion of the indication information which has been written can be rewritten (Figure 1, Element 2 and Column 2, lines 31-40 where the indication layer is rewritable); wherein said recording medium is substantially planar and circular in shape (Figure 1, Element 8).

Regarding claim 2, Nakano discloses wherein the indicator layer includes electronic paper (Column 2, lines 51-56).

Regarding claim 4, Nakano disclose wherein the indication information is written by irradiating light in a form of an image onto the indication layer (Column 4, lines 20-35 where the image is visually perceived based on incident light).

Regarding claim 5, Nakano discloses wherein the indication layer has a heat recording layer at which the indication information can be recorded and deleted by a heat treatment (Column 2, line 63-Column 3, line 6).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (hereafter Anderson)(US 6,778,205) and in view of Araki et al. (hereafter Araki)(US PgPub 2003/0103762).

Regarding claim 3, Anderson discloses a recording medium (Figure 3A) comprising a storage layer for storing data (Figure 3A, Element 202); and an indication layer for providing indication information relating to the stored data (Figure 3A, Element 302), wherein the indication information can be written at the indication layer, and at least a portion of the indication information which has been written can be rewritten (Column 4, lines 35-38. More specifically, phase changing material allows for areas of the indication layer to be rewritten). Anderson does not disclose wherein the indication layer has a cholesteric layer and a transparent electrode layer on a light absorbing layer. In the same field of endeavor, Araki discloses a light absorbing layer which has

both a cholesteric layer and a transparent electrode (Paragraph 0106). Similarly, Anderson discloses a recording medium with a storage layer and an indication layer disposed thereon where the indication layer includes a dye or phase changing material. Thus, both Anderson and Araki disclose recording mediums with indication layers for indicating information related to the disc. The difference between Anderson and Araki is the type of indication layer disclosed. However, a simple substitution of indicating layers (i.e., substituting an indication layer of a cholesteric layer and a transparent electrode on a light absorbing layer in place of the writable label of Anderson) is well within the scope of knowledge that is known to one of ordinary skill in the art because the substitution results in a predictable result. More specifically, providing the indication layer of a cholesteric layer and a transparent electrode on a light absorbing layer to the recording medium of Anderson '205 results in a recording medium that provides a visible image perceptible to a human via the indication layer.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to provide the light absorbing layer which has both a cholesteric layer and a transparent electrode of Araki to the recording medium of Anderson, motivation being to provide a visible image on the recording medium.

Regarding claim 22, Anderson discloses wherein the storage layer comprises data written in at least one of magnetic and optical form (Figure 1).

Regarding claim 23, Araki discloses wherein the storage layer is read electrically (Figure 17).

Claims 6-7, 9-10, 14-19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (hereafter Anderson)(US 6,778,205) and in view of Anderson et al. (US 7,145,586).

Regarding claim 6, Anderson discloses a data writing device (Figure 1) to a recording medium having a storage layer for storing data (Figure 3A, Element 300), and an indication layer for providing indication information relating to the stored data (Figure 3A, Element 202), the device comprising: a storing section storing data at the storage layer of the recording medium (Figure 1, Element 100, 108, and 112a); and a writing section writing, at the indication layer, the indication information which relates to the stored data and which is for indication at the recording medium (Figure 1, Elements 100, 108, and 112a). Anderson does not disclose a detecting section detecting a difference between storage data which is stored at the storage layer of the recording medium, and new data which is to be subsequently stored; and a generating section which, on the basis of results of detection of the detecting section, generates detection data regarding the difference between the data stored at the storage layer and the new data which is to be subsequently stored, and generates indication information which corresponds to the difference, wherein the storing section stores, at the storage layer, the detection data regarding the difference, and the writing section writes, at the indication layer, the indication information which corresponds to the difference. In the same field of endeavor, Anderson et al. disclose a detecting section detecting a difference between storage data which is stored at the storage layer of the recording

medium, and new data which is to be subsequently stored; and a generating section which, on the basis of results of detection of the detecting section, generates detection data regarding the difference between the data stored at the storage layer and the new data which is to be subsequently stored, and generates indication information which corresponds to the difference, wherein the storing section stores, at the storage layer, the detection data regarding the difference, and the writing section writes, at the indication layer, the indication information which corresponds to the difference (Figure 6 and Column 6, line 9-Column 8, line 3).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to provide the label updating means Anderson et al. to the data writing device of Anderson, motivation being to accurately display the most current data stored on the medium.

Regarding claim 7, Anderson discloses wherein the indication information can be written at the indication layer, and at least a portion of the indication information which has been written can be rewritten (Figure 3A, Element 302 and Column 4, lines 35-38. More specifically, phase changing material allows for areas of the indication layer to be rewritten).

Regarding claim 9, Anderson et al. disclose wherein the storing section also stores the indication information at the storage layer (Figure 6, Element 606).

Regarding claim 10, Anderson discloses a data memory section for storing the stored data and the indication information (Figure 1, Element 110 and Column 3, lines

56-65. Here, Anderson discloses that logic (Figure 1, Element 110) may include a combination of hardware, firmware, and/or software).

Regarding claim 14, Anderson et al. disclose wherein the storing section also stores, at the storage layer, the indication information which corresponds to the difference (Figure 6, Element 614).

Regarding claim 15, Anderson et al. disclose a data memory section storing the stored data and the indication information which corresponds to the difference between the data stored at the storage layer and the new data (Figure 7. Memory is inherently provided within).

Method claim 16 is drawn to the method of using the corresponding apparatus claimed in claim 6. Therefore method claim 6 corresponds to apparatus claim 6 and is rejected for the same reasons of obviousness as used above.

Regarding claim 17, Anderson discloses wherein said indication information is generated according to a manner of indication received from an external source (Column 1, lines 31-35).

Regarding claim 18, Anderson discloses wherein said external source is a user (Column 1, lines 31-35).

Regarding claim 19, Anderson et al. disclose writing said indication information to said storage layer of said storage medium (Figure 6, Element 606).

Regarding claim 21, Anderson discloses wherein said storage medium is substantially planar and circular in shape (Figure 3A).

Claims 8 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson and Anderson et al., as applied to claims 6-7, 9-10, 14-19 and 21 above, and in further view of Nakano (US 6,391,439).

Regarding claims 8 and 20, Anderson and Anderson et al. do not disclose wherein the indication layer includes electronic paper. In the same field of endeavor, Nakano discloses an indication layer which includes electronic paper (Column 2, lines 51-56).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to provide electronic paper of Nakano to the indication layer of Anderson and Anderson et al., motivation being to provide a clearly viewable image or text on the indication layer.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tamaoki et al. (US 6,197,460) disclose a rewritable heat sensitive, color image recording medium and image recording method using the same. Taira et al. (US 5,809,003) discloses an optical disk and optical information reproducing apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THOMAS D. ALUNKAL whose telephone number is (571)270-1127. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on (571)272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas D Alunkal/
Examiner, Art Unit 2627

/Wayne Young/
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